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<110> Wu, Shilan
       Hayashi, Jon H.
       Kinne, Lyle P.
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Page 13

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<213> Heliothis virescens and Aphis gossypii

<400> 6

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                20   25   30

Glu Trp Pro Pro Phe Glu Tyr Ala Val Leu Leu Thr Ile Ile Ala Asn
            35   40   45

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Cys Val Val Leu Ala Leu Glu Glu His Leu Pro Asn Gly Asp Lys Thr
    50              55              60

Ile Leu Ala Gln Asn Leu Glu Lys Thr Glu Ala Tyr Phe Leu Gly Ile
65              70              75              80

Phe Cys Val Glu Ala Ser Leu Lys Ile Leu Ala Leu Gly Phe Val Leu
            85              90              95

His Arg Gly Ser Tyr Leu Arg Asn Val Trp Asn Ile Met Asp Phe Phe
            100             105             110

Val Val Val Thr Gly Ile Ile Thr Gln Leu Pro Ile Ala Pro Ala Asp
        115             120             125

Val Asp Phe Arg Thr Leu Arg Ala Ile Arg Val Leu Arg Pro Leu Lys
    130             135             140

Leu Val Ser Gly Val Pro Ser Leu Gln Val Val Leu Lys Ser Ile Ile
145             150             155             160

Lys Ala Met Ala Pro Leu Leu Gln Ile Gly Leu Leu Val Leu Phe Ala
            165             170             175

Ile Val Ile Phe Ala Ile Ile Gly Leu Glu Phe Tyr Ser Gly Ala Leu
            180             185             190

His Lys Thr Cys Tyr Asn Leu Glu Asp Ile Ser Glu Ile Val Asn Glu
        195             200             205

Gly Asp Ser Ala Thr Pro Cys Asn Ala Asp Asn Val Ser Leu Ala Pro
    210             215             220

Phe Gly Ala Asn Val Cys Asp Tyr Glu Lys Ser Thr Cys Leu Glu Lys
225             230             235             240

Trp Glu Gly Pro Asn Arg Gly Ile Thr Ser Phe Asp Asn Ile Gly Phe
            245             250             255

Ala Met Leu Thr Val Phe Gln Cys Ile Thr Met Glu Gly Trp Thr Ala
            260             265             270

Ile Leu Tyr Trp Thr Asn Asp Ala Leu Gly Ser Ala Phe Asn Trp Ile
        275             280             285

Tyr Phe Val Pro Leu Ile Val Leu Gly Ser Phe Phe Met Leu Asn Leu
    290             295             300
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Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys Glu Arg Glu Lys Val
305   310   315   320

Glu Asn Arg Gln Glu Phe Leu Lys Leu Arg Arg Gln Gln Gln Leu Glu
                325   330   335

Arg Glu Leu Asn Gly Tyr Val Glu Trp Ile Cys Lys Ala Glu Glu Val
                340   345   350

Ile Leu Ala Glu Glu Arg Thr Thr Glu Glu Glu Lys Met His Ile Ile
        355   360   365

Glu Ala Arg Arg Arg Ala Ala Ala Lys Lys Lys Leu Lys Asn Leu Gly
        370   375   380

Lys Ser Lys Ser Thr Asp Thr Glu Glu Glu Glu Gln Asp Glu Asp Cys
385   390   395   400

Gly Asp Asp Gly Phe Leu Lys Ser Lys Ala Arg Ser Ala Gly Arg Phe
                405   410   415

Ala Asp Phe Trp Arg Ala Glu Lys Arg Phe Arg Phe Trp Ile Arg His
                420   425   430

Thr Val Lys Thr Gln Trp Phe Tyr Trp Phe Val Ile Val Leu Val Leu
        435   440   445

Phe Asn Thr Ile Cys Val Ala Val Glu His Tyr Arg Gln Pro Lys Trp
        450   455   460

Leu Thr Ser Phe Leu Tyr Tyr Ala Glu Phe Val Phe Leu Gly Leu Phe
465   470   475   480

Met Met Glu Met Trp Val Lys Met Tyr Ala Leu Gly Pro Arg Ile Tyr
                485   490   495

Phe Glu Ser Ser Phe Asn Arg Phe Asp Cys Val Val Ile Ser Gly Ser
                500   505   510

Ile Phe Glu Val Val Trp Ser Glu Val Lys Gly Gly Ser Phe Gly Leu
        515   520   525

Ser Val Leu Arg Ala Leu Arg Leu Leu Arg Ile Phe Lys Val Thr Lys
        530   535   540

Tyr Trp Ser Ser Leu Arg Asn Leu Val Ile Ser Leu Leu Asn Ser Met
545   550   555   560

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Arg Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe Leu Phe Ile Leu Ile
            565   570   575

Phe Ala Leu Leu Gly Met Gln Leu Phe Gly Gly Gln Phe Asn Phe Glu
            580   585   590

Asp Gly Thr Pro Pro Thr Asn Phe Asn Thr Phe Pro Ile Ala Leu Leu
            595   600   605

Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp Asn Glu Val Met Tyr
    610   615   620

Asp Gly Ile Gln Ser Gln Gly Gly Ile Gln Arg Gly Met Ile Tyr Ser
625   630   635   640

Leu Tyr Phe Val Ile Leu Val Leu Phe Gly Asn Tyr Thr Leu Leu Asn
            645   650   655

Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala Asn Ala Gln Glu Leu
            660   665   670

Thr Ala Ala Glu Glu Glu Gln Val Glu Glu Asp Lys Glu Lys Gln Leu
            675   680   685

Gln Glu Leu Glu Lys Gly Met Gly Ala Leu His Ala Val Asp Gly Thr
    690   695   700

Pro Pro Gly Val Asp Leu Ser Pro Ser Ser Pro Thr Ser Arg Lys Asn
705   710   715   720

Lys Lys Lys Glu Glu Ala Lys Lys Glu Asp Glu Asp Glu Val Pro Asp
            725   730   735

Gly Pro Lys Pro Met Leu Pro Tyr Ser Ser Met Phe Ile Leu Ser Pro
            740   745   750

Thr Asn Pro Ile Arg Arg Gly Ala His Trp Val Val Asn Leu Arg Tyr
            755   760   765

Phe Asp Phe Phe Ile Met Val Val Ile Cys Met Ser Ser Ala Ala Leu
    770   775   780

Ala Ala Glu Asp Pro Val Val Glu Glu Ser Asp Arg Asn Lys Ile Leu
785   790   795   800

Asn Tyr Phe Asp Tyr Ala Phe Thr Gly Val Phe Thr Val Glu Met Leu
            805   810   815

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Leu Lys Ile Val Asp Leu Gly Ile Leu Phe His Pro Gly Ala Tyr Leu
        820             825                 830

Arg Asp Leu Trp Asn Ile Met Asp Ala Ala Val Val Ile Cys Ala Leu
        835             840                 845

Val Ser Phe Gly Phe Glu Ile Gly Gly Val Lys Lys Gly Ala Gly Gln
    850             855                 860

Asn Leu Ser Thr Ile Lys Ser Leu Arg Val Leu Arg Val Leu Arg Pro
865                 870                 875                 880

Leu Lys Thr Ile Lys Arg Val Pro Lys Leu Lys Ala Val Phe Asp Cys
            885                 890                 895

Val Val Asn Ser Leu Lys Asn Val Ile Asn Ile Leu Ile Val Tyr Ile
            900                 905                 910

Leu Phe Gln Phe Ile Phe Ala Val Ile Ala Val Gln Leu Phe Asn Gly
        915                 920                 925

Lys Phe Phe His Cys Asn Asp Ile Ser Lys Asn Thr Phe Glu Asp Cys
    930                 935                 940

Gln Gly Ser Tyr Phe Val Tyr Glu Ser Asn Ser Leu Leu Pro Lys Val
945                 950                 955                 960

Asn Gln Arg Thr Trp Thr Thr Gln Ser Phe His Tyr Asp Asn Val Ala
            965                 970                 975

Val Ala Met Leu Thr Leu Phe Ala Val Gln Thr Gly Glu Gly Trp Pro
            980                 985                 990

Gln Val Leu Gln Asn Ser Met Ala Ala Thr Tyr Glu Asp Arg Gly Pro
        995             1000                1005

Ile Gln Asn Phe Arg Ile Glu Met Ser Ile Phe Tyr Ile Val Tyr
    1010            1015                1020

Phe Val Val Phe Pro Phe Phe Phe Val Asn Ile Phe Val Ala Leu
    1025            1030                1035

Ile Ile Ile Thr Phe Gln Glu Gln Gly Glu Ala Glu Leu Gln Asp
    1040            1045                1050

Gly Glu Ile Asp Lys Asn Gln Lys Ser Cys Ile Asp Phe Thr Ile
    1055            1060                1065
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Glu Ala Arg Pro Leu Glu Arg Tyr Met Pro Ser Lys Arg Ala Ser
    1070              1075              1080

Phe Lys Tyr Lys Val Trp Arg Ile Val Val Ser Thr Pro Phe Glu
    1085              1090              1095

Tyr Phe Ile Met Thr Leu Ile Val Leu Asn Thr Leu Leu Leu Met
    1100              1105              1110

Met Lys Phe His Glu Ala Pro Pro Leu Leu Met Asp Ile Leu Thr
    1115              1120              1125

Phe Met Asn Leu Val Phe Thr Thr Phe Phe Leu Leu Glu Thr Val
    1130              1135              1140

Leu Lys Leu Ile Ala Phe Gly Cys Thr Asn Phe Phe Lys Asp Pro
    1145              1150              1155

Trp Asn Thr Phe Asp Phe Ile Thr Val Ile Gly Ser Ile Ile Asp
    1160              1165              1170

Ala Leu Ile Met Glu Phe Gly Glu Asn Thr Phe Asn Val Gly Phe
    1175              1180              1185

Leu Arg Leu Phe Arg Ala Ala Arg Leu Ile Lys Leu Leu Arg Gln
    1190              1195              1200

Gly Tyr Thr Ile Arg Ile Leu Leu Trp Thr Phe Val Gln Ser Phe
    1205              1210              1215

Lys Ala Leu Pro Tyr Val Cys Leu Leu Ile Ala Met Leu Phe Phe
    1220              1225              1230

Ile Tyr Ala Ile Ile Gly Met Gln Val Phe Gly Asn Ile Glu Leu
    1235              1240              1245

Thr Pro Glu Ser Asp Met Asn Arg His Asn Asn Phe Arg Ser Phe
    1250              1255              1260

Ile Gln Ala Leu Met Leu Leu Phe Arg Cys Ala Thr Gly Glu Ser
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Trp Pro Asn Ile Met Leu Ala Cys Arg Lys Pro Ala Lys Cys Asp
    1280              1285              1290

Ile Ala Ala Gly Lys Ala Ser Asn Glu Glu Cys Gly Ser Thr Leu
    1295              1300              1305
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Ala Tyr  Ala Tyr Phe Val Ser  Phe Ile Phe Phe Cys  Ser Phe Leu
    1310             1315             1320

Met Leu  Asn Leu Phe Val Ala  Val Ile Met Asp Asn  Phe Asp Tyr
    1325             1330             1335

Leu Thr  Arg Asp Ser Ser Ile  Leu Gly Ala His His  Leu Asp Glu
    1340             1345             1350

Phe Val  Arg Ile Trp Ala Glu  Tyr Asp Pro Asn Ala  Thr Gly Lys
    1355             1360             1365

Ile His  Tyr Thr Glu Met Tyr  Asp Met Leu Lys Asn  Met Asp Pro
    1370             1375             1380

Pro Leu  Gly Phe Gly Asn Lys  Cys Pro Asn Arg Leu  Ala Tyr Lys
    1385             1390             1395

Lys Leu  Ile Arg Met Asn Met  Pro Leu Asp Asp Glu  Gly Lys Val
    1400             1405             1410

Asn Phe  Thr Thr Thr Leu Phe  Ala Leu Ile Arg Glu  Asn Leu Asn
    1415             1420             1425

Ile Lys  Met Arg Ser Pro Glu  Glu Met Asp Gln Ala  Asp Glu Glu
    1430             1435             1440

Leu Arg  Glu Thr Ile Thr His  Ile Trp Pro Leu Gln  Ala Lys Lys
    1445             1450             1455

Met Leu  Asp Leu Leu Val Pro  Arg Asn Asp Val Leu  Asn Ala Gly
    1460             1465             1470

Lys Leu  Thr Val Gly Lys Ile  Tyr Ala Gly Leu Leu  Ile Leu Glu
    1475             1480             1485

Ser Trp  Arg Ser Thr Arg Phe  Lys Gln Asn Gly Val  Pro Val Leu
    1490             1495             1500

Glu Leu  Gln Gly Ser His His  Ala Ser Met Glu Ser  Leu Asp Glu
    1505             1510             1515

Gly Arg  Leu Gln Ala Pro His  Thr Tyr Gln Asn Gly  His His His
    1520             1525             1530

Gly Arg  Ser Ser Ser Leu Arg  Arg Thr Pro Ser Pro  Arg Arg Arg
    1535             1540             1545
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Gly His  Tyr Gly Gly Tyr His  His Asp Ile Gly Phe  Ser Asp Thr
    1550                1555             1560
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```
Val Ser  Asn Val Val Glu Ile  Val Lys His Glu His  Gln Arg His
    1565                1570             1575
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Gly Arg  Thr His Arg Ala Pro  His Tyr Tyr His Pro  His Val Trp
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Ala Pro  Ile Gly Glu Arg Glu  Arg Asp Arg Glu Trp  Arg Glu Trp
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Arg Asp  Arg Ser Trp Glu Arg  Glu Gly Ala Arg Arg  Gly Arg Arg
    1610                1615             1620
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Arg Arg  Leu Pro Pro Thr Pro  Asn Lys Pro Ser Ser  Leu Gln Leu
    1625                1630             1635
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Arg Pro  Pro His His Ser Ala  Ser Ile Asn Phe Pro  Lys Leu Asn
    1640                1645             1650
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Ala Ser  Pro Thr Arg Gly Gln  Pro Ala Ser Leu Pro  Lys Pro Pro
    1655                1660             1665
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Pro Val  Asn Met Ser Ser Thr  Ser Thr Ala Ala Ala  Val Ala Arg
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Gln Ser  Met Ala Met Thr Ala  Met Pro Pro Leu Ser  Phe Glu Gln
    1685                1690             1695
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Ala Met  Ser Ile Gly Arg Ser  Gly Arg Leu Leu Pro  Ser Pro Val
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Arg Asn  Gly Tyr Ala Ser Ser  Ser Ser Lys Gln Gln  Gln Gln Gln
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Gln Gln  Pro Ser Ser Ser Ser  Ser Val Ser Ala Ile  Arg Arg Gln
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Lys Ser  Gly Gly Gly Gly Arg  Val Ser Ser Arg His  Ser Asp Ser
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Asp Glu  Asp Asp Trp Cys
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<213> Heliothis virescens

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<400> 8

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            20                  25                  30


Asp Lys Glu Ala Leu Arg Arg Glu Lys Glu Ala Gln Ala Ile Lys Gln
        35                  40                  45


Leu Asp Lys Ala Arg Glu Lys Pro Val Ala Phe Ala Val Arg Thr Asn
    50                  55                  60


Val Ser Tyr Asp Gly Thr Val Asp Asp Asp Ser Pro Val His Gly Ser
65                  70                  75                  80


Ala Ile Ser Phe Glu Val Arg Asp Phe Leu His Ile Lys Glu Lys Tyr
                85                  90                  95


Asp Asn Asn Trp Trp Ile Gly Arg Leu Val Lys Glu Gly Ser Asp Val
                100                 105                 110


Gly Phe Ile Pro Ser Pro Val Lys Leu Glu Ala Val Arg Ser Gly Leu
            115                 120                 125


Gly Ala Arg Arg Tyr Pro Arg Pro Ala Ser Ala Ala Pro His Ala Pro
    130                 135                 140


His Ala Pro Pro Leu Ser Arg Gly Ser Thr Pro Pro Thr Pro Gly Glu
145                 150                 155                 160


Glu Ser Asp Gly Ala Gly Arg Gly Arg Gly Gly Gly Ala Gly Gly Lys
                165                 170                 175


Glu Lys Arg Lys Pro Phe Phe Lys Lys Ala Glu Ala Ser Thr Pro Tyr
            180                 185                 190
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Asp Val Val Pro Ser Met Arg Pro Val Val Ile Val Gly Pro Ser Leu
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Lys Gly Tyr Glu Val Thr Asp Met Met Gln Lys Ala Leu Phe Asp Phe
    210   215   220

Leu Lys Arg Arg Phe Glu Gly Arg Ile Ile Ile Thr Arg Val Met Ala
225   230   235   240

Asp Ile Ser Leu Ala Lys Arg Ser Leu Leu Asn Asn Pro Ser Lys Arg
            245   250   255

Ala Ile Met Glu Arg Ser Asn Ser Arg Ser Thr Cys Leu Ala Glu Val
            260   265   270

Gln Ala Glu Ile Glu Arg Ile Phe Glu Leu Ala Arg Thr Leu Gln Leu
            275   280   285

Val Val Leu Asp Cys Asp Thr Ile Asn His Pro Ser Gln Leu Ala Lys
    290   295   300

Thr Ser Leu Ala Pro Thr Ile Val Tyr Leu Lys Ile Ser Ser Pro Lys
305   310   315   320

Val Leu Gln Arg Leu Ile Lys Ser Arg Gly Lys Gly Gln Thr Lys Asn
            325   330   335

Leu Ser Val Gln Met Val Ala Ala Glu Lys Leu Ala Gln Cys Pro Pro
            340   345   350

Asp Met Phe Asp Val Ile Leu Asp Glu Asn Gln Leu Glu Asp Ala Cys
            355   360   365

Glu His Ile Ala Glu Tyr Leu Glu Ala Tyr Trp Arg Ala Thr His Pro
    370   375   380

Pro Val Pro Glu Glu Ala Ala Pro Ala Arg Pro Val Pro Arg Thr His
385   390   395   400

Asn Ala His Ala Met Pro Gly Gly Arg Ser Arg Ala Ala Arg Pro Glu
            405   410   415

Arg Leu Glu Glu Glu Tyr Tyr Pro Arg Gly Glu Arg Cys Glu Arg Tyr
            420   425   430

Glu Arg Gly Tyr Pro Arg Asp Tyr His Glu Tyr Gly Pro Glu Tyr Pro
            435   440   445

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Arg Glu Arg Ala His Ala Ala His Ala Ala Ala Pro His Asp Ala Tyr
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Gly His Asp Tyr Thr Arg Asp Ala Tyr Ala Arg Glu Glu Tyr Gly Arg
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Arg Thr Asn Val Ser Tyr Asp Gly Thr Val Asp Asp Asp Ser Pro Val
65                  70                  75                  80


His Gly Ser Ala Ile Ser Phe Glu Val Arg Asp Phe Leu His Ile Lys
                85                  90                  95


Glu Lys Tyr Asp Asn Asn Trp Trp Ile Gly Arg Leu Val Lys Glu Gly
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Ser Asp Val Gly Phe Ile Pro Ser Pro Val Lys Leu Glu Ala Val Arg
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Ser Gly Leu Gly Ala Arg Arg Tyr Pro Arg Pro Ala Ser Ala Ala Pro
    130   135   140

His Ala Pro His Ala Pro Pro Leu Ser Arg Gly Ser Thr Pro Pro Thr
145   150   155   160

Pro Gly Glu Glu Ser Asp Gly Ala Gly Arg Gly Arg Gly Gly Gly Ala
            165   170   175

Gly Gly Lys Glu Lys Arg Lys Pro Phe Phe Lys Lys Ala Glu Ala Ser
        180   185   190

Thr Pro Tyr Asp Val Val Pro Ser Met Arg Pro Val Val Ile Val Gly
        195   200   205

Pro Ser Leu Lys Gly Tyr Glu Val Thr Asp Met Met Gln Lys Ala Leu
    210   215   220

Phe Asp Phe Leu Lys Arg Arg Phe Glu Gly Arg Ile Ile Ile Thr Arg
225   230   235   240

Val Gln Ser Asp Ile Ser Leu Ala Lys Arg Thr Gln Asn Ala Pro Lys
            245   250   255

Lys Pro Phe Val Glu Arg Ala Gly Asn Arg Thr Asn Cys Leu Ala Glu
        260   265   270

Val Gln Ala Glu Ile Glu Arg Ile Phe Glu Leu Ala Arg Thr Leu Gln
        275   280   285

Leu Val Val Leu Asp Cys Asp Thr Ile Asn His Pro Ser Gln Leu Ala
    290   295   300

Lys Thr Ser Leu Ala Pro Thr Ile Val Tyr Leu Lys Ile Ser Ser Pro
305   310   315   320

Lys Val Leu Gln Arg Leu Ile Lys Ser Arg Gly Lys Gly Gln Thr Lys
            325   330   335

Asn Leu Ser Val Gln Met Val Ala Ala Glu Lys Leu Ala Gln Cys Pro
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Pro Asp Met Phe Asp Val Ile Leu Asp Glu Asn Gln Leu Glu Asp Ala

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His Asn Ala His Ala Met Pro Gly Gly Arg Ser Arg Ala Ala Arg Pro
            405             410             415

Glu Arg Leu Glu Glu Glu Tyr Tyr Pro Arg Gly Glu Arg Cys Glu Arg
            420             425             430

Tyr Glu Arg Gly Tyr Pro Arg Asp Tyr His Glu Tyr Gly Pro Glu Tyr
        435             440             445

Pro Arg Glu Arg Ala His Ala Ala His Ala Ala Ala Pro His Asp Ala
    450             455             460

Tyr Gly His Asp Tyr Thr Arg Asp Ala Tyr Ala Arg Glu Glu Tyr Gly
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Glu Ala Gln Ala Ile Lys Gln Leu Asp Lys Ala Arg Glu Lys Pro Val
        50   55   60

Ala Phe Ala Val Arg Thr Asn Val Ser Tyr Asp Gly Thr Val Asp Asp
65   70   75   80

Asp Ser Pro Val His Gly Ser Ala Ile Ser Phe Glu Val Arg Asp Phe
                85   90   95

Leu His Ile Lys Glu Lys Tyr Asp Asn Asn Trp Trp Ile Gly Arg Leu
            100   105   110

Val Lys Glu Gly Ser Asp Val Gly Phe Ile Pro Ser Pro Val Lys Leu
            115   120   125

Glu Ala Val Arg Ser Gly Leu Gly Ala Arg Arg Tyr Pro Arg Pro Ala
        130   135   140

Ser Ala Ala Pro His Ala Pro His Ala Pro Pro Leu Ser Arg Gly Ser
145   150   155   160

Thr Pro Pro Thr Pro Asp Val Pro Ser Phe Asp Arg Gly Glu Glu Ser
                165   170   175

Asp Gly Ala Gly Arg Gly Arg Gly Gly Gly Ala Gly Gly Lys Glu Lys
            180   185   190

Arg Lys Pro Phe Phe Lys Lys Ala Glu Ala Ser Thr Pro Tyr Asp Val
            195   200   205

Val Pro Ser Met Arg Pro Val Val Ile Val Gly Pro Ser Leu Lys Gly
    210   215   220

Tyr Glu Val Thr Asp Met Met Gln Lys Ala Leu Phe Asp Phe Leu Lys
225   230   235   240

Arg Arg Phe Glu Gly Arg Ile Ile Ile Thr Arg Val Gln Ser Asp Ile

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Ser Leu Ala Lys Arg Thr Gln Asn Ala Pro Lys Lys Pro Phe Val Glu
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            275                 280                 285

Ile Phe Glu Leu Ala Arg Thr Leu Gln Leu Val Val Leu Asp Cys Asp
    290                 295                 300

Thr Ile Asn His Pro Ser Gln Leu Ala Lys Thr Ser Leu Ala Pro Thr
305                 310                 315                 320

Ile Val Tyr Leu Lys Ile Ser Ser Pro Lys Val Leu Gln Arg Leu Ile
                325                 330                 335

Lys Ser Arg Gly Lys Gly Gln Thr Lys Asn Leu Ser Val Gln Met Val
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Ala Ala Glu Lys Leu Ala Gln Cys Pro Pro Asp Met Phe Asp Val Ile
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Leu Asp Glu Asn Gln Leu Glu Asp Ala Cys Glu His Ile Ala Glu Tyr
    370                 375                 380

Leu Glu Ala Tyr Trp Arg Ala Thr His Pro Pro Val Pro Glu Glu Ala
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Ala Pro Ala Arg Pro Val Pro Arg Thr His Asn Ala His Ala Met Pro
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Asp Pro Pro Ala Asn Thr Gly Gly His Arg Glu Arg Ser Asp Ser Tyr
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Ser Tyr Glu Arg Glu Arg Gly Gly Arg Ser Arg Ala Ala Arg Pro Glu
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Arg Leu Glu Glu Glu Tyr Tyr Pro Arg Gly Glu Arg Cys Glu Arg Tyr
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Glu Arg Gly Tyr Pro Arg Asp Tyr His Glu Tyr Gly Pro Glu Tyr Pro
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Arg Glu Arg Ala His Ala Ala His Ala Ala Ala Pro His Asp Ala Tyr
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Gly His Asp Tyr Thr Arg Asp Ala Tyr Ala Arg Glu Glu Tyr Gly Arg
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Ala Leu Leu Gln Thr Trp Ala Glu Lys Leu Tyr Phe Glu Leu Trp Asn
        35                  40                  45


Cys Gly Glu Tyr Ile Thr Asn Arg Lys Ser Leu Gln Thr Lys Tyr Asn
    50                  55                  60


Lys Glu Ser Lys Leu Glu Ala Arg Asn Gly Gln Ile Leu Val Ala Asn
65                  70                  75                  80
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Page 34

Ile Ser Ser Val Ile Lys Ser Met Met Asp Lys Lys Gln Gln Ser Leu
85 90 95

Lys Arg Ile Leu Glu Ser Val Glu Gln Val Ala Val Ser Ala His Asp
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Asp Glu Pro Pro Gly Asn Asp Tyr Lys Ile Arg Asn Ser Lys Pro Lys
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Lys Ala Thr Pro Asp Thr Asn Ile Leu Leu Asn Asp Leu Lys Glu Asn
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Ser His Phe Tyr Asn Thr Pro Val Asn Thr Thr Tyr Ser Ser Val His
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Ile Pro Thr Tyr Val Tyr Asp Arg Ala Thr Glu Val Ile Lys Ala Ile
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Asp Pro Arg Leu Ser Trp Gln Tyr Phe Gly Ser Thr Thr Gly Phe Met
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Asp Cys Arg Met Arg Pro Trp Tyr Val Glu Ala Ala Ala Ser Pro Lys
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Lys Ile Ile Ala Arg His Val Ile Asn Thr Leu Leu Asp Thr Leu Ser
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Val Asn Asp Tyr Val Asn Val Leu Val Phe Ser Asn Val Thr Asn Glu
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Val Val Pro Cys Phe Lys Gly Leu Leu Val Gln Ala Thr Leu Ala Asn
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Ile Arg Glu Leu Lys Leu Gly Val Glu Asn Ile Ala Asp Pro Asn Asn
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Ile Ser Asp Phe Ser Glu Ala Leu Thr Arg Ala Phe Asp Thr Leu Glu
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Thr Tyr Arg Glu Arg Asn Met Gly Ala Met Cys Asn Gln Ala Ile Met
            340   345   350

Leu Val Thr Asp Gly Val Pro Glu Asn Phe Tyr Glu Leu Phe Lys Ser
            355   360   365

His Asn Trp Lys Asn Gly Thr Met Gly Met Pro Val Arg Val Phe Thr
    370   375   380

Tyr Leu Ile Ser Arg Glu Leu Pro Glu Ile Arg Asp Met Gln Trp Met
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Ala Cys Ala Asn His Gly Tyr Phe Val His Leu Ser Thr Val Glu Glu
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Val Arg Glu Gln Val Val His Tyr Leu Pro Val Met Ala Arg Pro Leu
            420   425   430

Val Leu His Gln Ser His His Pro Val Ile Trp Thr Pro Leu Tyr Ala
            435   440   445

Asp Val Thr Asp Pro Lys Met Thr Asp Tyr Leu Trp Glu Lys Glu Glu
    450   455   460

Cys His Gln Gln Tyr Asn Asp Thr Ile Ser Tyr Lys Lys Thr Lys Asp
465   470   475   480

Lys Phe Phe Tyr Pro Lys Asn Ile Ala Lys Arg Glu Gln Asp Arg Lys
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Arg Lys Glu Leu Asp Gln Asn Val Asn Val Asn Arg Gln Lys Lys His
            500   505   510

Asn Leu Ile Thr Ser Leu Ala Met Pro Ala Phe Asp Lys Lys Thr Glu
            515   520   525

Met Thr Lys Val Ala His Leu Leu Gly Val Val Gly Thr Asp Val Pro
    530   535   540

Glu Ala Asp Leu Arg Glu Ala Met Ser Pro His Ile Leu Gly Val Asn
545   550   555   560

Asn Tyr Ala Phe Ile Val Thr Asn Asn Gly Phe Ile Val Thr His Pro
            565   570   575

Asp Leu Arg Pro Val Phe Gly Asp Ile Leu Lys Pro Asn Tyr Asn Ser
            580   585   590

Page 36

Ile Asp Val Thr Glu Val Glu Leu Val Glu Ser Asp Asn Asn Ala Arg
        595   600   605

Val Phe Asp Arg Ser Ile Leu Thr Leu Arg Asp Tyr Ile Ile Asn Gln
        610   615   620

Thr Thr Gly Asp Arg Glu Ile Thr Val Lys Tyr His Tyr Asp Asn Ile
625   630   635   640

Arg Arg Ala Thr Thr Ala Glu Arg His Tyr Tyr Tyr Ser Ile Val Glu
                645   650   655

Gly Thr Pro Phe Thr Val Val Val Ala Leu Gln Glu Lys His Phe Gly
                660   665   670

Tyr Arg Val Lys Ile Pro Glu Arg Phe Gln Thr Leu Asn Thr Thr Arg
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Thr Thr Leu Leu Asp Leu Phe Lys Asp Asp Glu Trp Arg Ile His Pro
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Asp Trp Leu Tyr Cys Arg Tyr Ala Tyr Asp Asp Gly Asp Asn Thr Ser
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Phe Lys Thr Pro Glu Asp Glu Leu Lys His Phe Leu Lys Arg Ile Ser
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Lys Thr Asp Asn Ser Trp Asn Lys Trp Pro Pro Pro Arg Phe Tyr Ser
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Glu Ser Tyr Asp Ser Asn Gly Ser Ile Leu Pro Glu Glu Lys Phe Asp
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Cys Lys Cys Tyr Cys Asp Lys Glu Leu Met Leu Ser Leu Ile Tyr Asp
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Lys Lys Lys Asn Pro Ala Ala Val Leu Met Ser Leu Leu Pro Arg Thr
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Glu Phe Glu Lys Arg Phe Gly Val Thr Leu Ala Phe Val Ala Thr His
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Ser Gly Leu Thr Arg Trp Met Asp Tyr Glu Asp Lys Pro Lys Thr Ser
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Asn Met Val Asn Asp Glu Ser Tyr Val Tyr Ser Val Pro Phe Glu Asn
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Glu Asn Ile Lys Ser Thr Leu Val Thr Ala Ser Gln Ala Val Phe Val
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Thr Ser Lys Glu Asn Lys Lys Lys Gly Ala Ala Ala Val Val Gly Tyr
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Gln Phe Arg His Ser Ala Leu Gln Glu Leu Phe Ser Asn Ile Thr Lys
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Gln Cys Tyr Ser Glu Thr Gly Cys Thr Pro Ala Lys Asp Thr Cys Gln
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Ser Leu Glu Arg Asp Cys Tyr Ile Leu Asp Asn Asn Gly Tyr Ile Ile
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Ala Ser Glu Asn Pro Met Asp Thr Gly Lys Phe Phe Gly Lys Val Lys
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Asp Asp Ser Asn Ser Ser Ser Phe Leu Tyr Thr Pro Ile His His
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Met Lys Gln Leu Ile Gly Trp Leu Ile Gly Arg Val Leu Trp Leu
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Ala Ala His Ser Asn Phe Gln Trp Met Val Ser Gln Ala Gln Ala
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Ile Phe Glu Asp Asp Tyr Gln Glu Asp Glu Glu Ser Asn Tyr Ser
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Ser Asp Thr Ile Ser Thr Phe Lys Ile Glu Gly Glu Lys Ala Leu
    1085            1090            1095
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Lys Tyr Val Lys Ile Asn Arg Thr Arg Pro Lys Ser Cys Asp Arg
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Val Val Asp Leu Phe Thr Leu Thr Ser Lys Ile Pro Glu Lys Val
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Glu Arg Lys Ser Met Cys Ala Arg Pro Tyr Glu Leu Arg Lys Ile
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Met Asn Thr Asn Leu Ile Leu Leu Val Val Asn Gly Arg Cys Pro
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Glu Ser Ser Lys Ser Glu Asn Phe Asp Thr Leu Pro Glu Glu Val
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Met Tyr Asp Glu Phe Asn Asn Ser Leu Gly Cys His Lys Ala Phe
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Tyr Ser Leu Pro Arg Arg Arg Pro Lys Thr Ala Cys Ile Arg Thr
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His Pro Asp Glu His Glu Ile Tyr Asp Lys Met Cys Gly Ser Ser
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Thr Ile Ile Thr Ile Thr Pro Ile Thr Leu Ser Val Ile Phe Phe
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Glu Leu Tyr His Phe Gly Glu Phe Ile Thr Arg Lys Lys Glu Val Gln
        50              55              60


Asp Ser Phe Lys Ser Ala Gln Val Glu Ser Arg Asp Gly Glu Lys Leu
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Val Gln Ser Met Ser Asp Asp Ile Arg Ala Met Met Glu Leu Lys Ile
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Ser Ala Val Lys Arg Ile Val Glu Ala Ala Glu Asn Met Ala Phe Asp
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Lys Gln Asn Glu Pro Val Pro Glu Asp Phe Gln Phe Tyr Asn Ser Lys
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Asn Phe Ser Ser Val His Val Pro Thr Asn Val Tyr Ala Trp Ala Pro
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Glu Val Ile Lys Gly Ile His Trp Ser Glu Gly Leu Asp Thr His Phe
        195                 200                 205

Ile Asn Asn Tyr Gln Ser Asp Pro Thr Leu Ser Trp Gln Tyr Phe Gly
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Ser Ser Thr Gly Phe Met Arg His Tyr Pro Ala Leu Lys Trp Arg Ala
225                 230                 235                 240

Asp Pro Val Asp Ile Tyr Asp Cys Arg Thr Arg Ala Trp Tyr Met Glu
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Ala Ala Ala Ser Pro Lys Asp Val Ile Ile Leu Val Asp Arg Ser Gly
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Ile Leu Asp Thr Leu Gly Asn Asn Asp Phe Val Asn Val Leu Thr Phe
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Gln Ala Thr Leu Gly Asn Ile Arg Glu Leu Lys Leu Ala Met Asp Ser
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Phe Glu Thr Gln Glu Ile Ala Asn Phe Ser Ala Ala Leu Thr Arg Ala
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Phe Glu Leu Leu Glu Ile Tyr Arg Asn Asn Ser Gly Gly Ala Asn Cys
        355                 360                 365

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Glu Ile Phe Glu Lys Tyr Asn Trp Lys Tyr Glu Thr Pro Val Arg Val
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Thr Leu Ala Glu Val Arg Glu Arg Val Leu Glu His Val Asn Val Leu
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Ala Arg Pro Leu Val Leu Gln Arg Glu Lys His Pro Val Val Trp Thr
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Pro Val Tyr Ala Asn Val Thr Asp Pro Lys Val Ala Asp Tyr Leu Trp
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Glu Gln Arg Glu Arg Ala Glu Gln Lys Glu Arg Phe Met Ser Gln Arg
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Arg Asp Lys Asn Leu Phe Asn Ser Asp Lys Glu Gln Asp Arg Arg Trp
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Arg Ile Thr Gln Met Lys Gln Gly Gln Tyr Ser Glu Leu Gly Asn Ser
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Gln Tyr Gln Leu Met Thr Ser Val Ser Met Pro Val Tyr Asp Leu Arg
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His Asn Glu Ser Val Glu Glu Asn Gly Gln Lys Glu Met Arg Ile Ala
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Arg Leu Leu Gly Ile Ala Gly Thr Asp Val Pro Leu Ser Glu Ile Gln
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Ala Leu Met Thr Pro Tyr Lys Ile Gly Val Asn Gly Tyr Ala Phe Ile
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Val Thr Asn Asn Gly Tyr Ile Leu Ile His Pro Asp Leu Arg Pro Val
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Phe Gln Gln Ile Leu Lys Pro Ser Tyr Asn Ser Val Asp Met Ile Glu
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Val Glu Leu Phe Asp Asp Asp Arg Gly Pro Arg Asn Phe Ser Lys Glu
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Leu Thr Ala Leu Arg Lys Glu Ile Ile Asp Gln Lys Thr Gly Asn Lys

645   650   655

Val Met Ser Val Lys Tyr His Leu Asp Asp Met Lys Arg Val Ser Arg
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Ala Lys Arg His Tyr Phe Trp Thr Gly Ile Ser Asp Ser Pro Phe Thr
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Lys Glu His Asp Asn Asp Lys Pro Asp Phe Gly Lys Gln Trp Pro Arg
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Asp Pro Leu Ser Tyr Val Tyr Ser Val Asp Leu Ser Thr Val Lys Phe
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Pro Leu Asn Val Ser Leu Ala Leu Val Thr Ala Ser His Ala Val Phe
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His Gly Asp Gly His Arg Lys Ala Pro Ala Ala Val Val Gly Phe Gln
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Phe Lys His Glu Arg Leu Ser Glu Trp Phe Asp Asn Ile Thr Ser Ser
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Cys Glu His Asn Lys Glu Cys Thr Thr Cys Gln Ser Asp Asn Trp Asp
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Ser Arg Leu Val Glu Asp Glu Val Tyr Lys Ala Val His Ile Val
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Asp Tyr Gln Ala Val Cys Phe Arg Glu Lys Lys Thr Thr Asn Pro
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Ala Thr Met Leu Phe Thr Pro Leu Glu Asn Leu Arg Leu Val Met
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Ala Trp Phe Leu Ala Thr Thr Val Trp Phe Tyr Asn Ser Ile Thr
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Thr Gly Leu Ala Gln Ala Ser Ser Tyr Ser Phe Asp Asp Glu Asn
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Val Thr Pro Thr Val Ala Tyr Gln Ser Tyr Glu Asn Asp Glu Glu
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Thr Asp Asp Pro Tyr Met Ser Lys Pro Pro Asn Met Arg Val Leu
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Glu Arg Asp Tyr Glu Lys Leu Val Leu Ile Asn Arg Thr Arg Pro
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Lys His Met His Pro Leu Tyr Arg Lys Gln Pro Thr Ser Cys Ile
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Arg Asn His Thr Glu Glu Ser Asn Ile Asp Met Cys Gly Arg Gly
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Lys Ile Ser Leu Asn Ser Val Gln Ala Trp Ala Val Lys Leu Gly Thr
                35   40   45

Glu Leu Tyr His Phe Gly Glu Phe Ile Thr Arg Lys Lys Glu Val Gln
        50   55   60

Asp Ser Phe Lys Ser Ala Gln Val Glu Ser Arg Asp Gly Glu Lys Leu
65   70   75   80

Val Gln Ser Met Ser Asp Asp Ile Arg Ala Met Met Glu Leu Lys Ile
                85   90   95

Ser Ala Val Lys Arg Ile Val Glu Ala Ala Glu Asn Met Ala Phe Asp
                100   105   110

Lys Gln Asn Glu Pro Val Pro Glu Asp Phe Gln Phe Tyr Asn Ser Lys
            115   120   125

Glu Met Glu Glu Pro Trp Asp Glu Val Ser Ile Thr Thr Thr Pro Glu
    130   135   140

Thr Asp Phe Gly Gln Glu Ser Trp Ile Val Arg Pro Pro Ser Lys Asn
145   150   155   160

Ala His Thr Gln Gln Asn Pro His Phe Ser Asn Ile Pro Val Asn Thr
                165   170   175

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Asn Phe Ser Ser Val His Val Pro Thr Asn Val Tyr Ala Trp Ala Pro
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Glu Val Ile Lys Gly Ile His Trp Ser Glu Gly Leu Asp Thr His Phe
            195                 200                 205

Ile Asn Asn Tyr Gln Ser Asp Pro Thr Leu Ser Trp Gln Tyr Phe Gly
    210                 215                 220

Ser Ser Thr Gly Phe Met Arg His Tyr Pro Ala Leu Lys Trp Arg Ala
225                 230                 235                 240

Asp Pro Val Asp Ile Tyr Asp Cys Arg Thr Arg Ala Trp Tyr Met Glu
            245                 250                 255

Ala Ala Ala Ser Pro Lys Asp Val Ile Ile Leu Val Asp Arg Ser Gly
            260                 265                 270

Ser Met Thr Gly Gln Arg Arg Asp Ile Ala Lys His Val Val Thr Asn
        275                 280                 285

Ile Leu Asp Thr Leu Gly Asn Asn Asp Phe Val Asn Val Leu Thr Phe
    290                 295                 300

Ala Asp Thr Val Glu Glu Ile Val Pro Cys Phe Glu Asp Ser Leu Val
305                 310                 315                 320

Gln Ala Thr Leu Gly Asn Ile Arg Glu Leu Lys Leu Ala Met Asp Ser
            325                 330                 335

Phe Glu Thr Gln Glu Ile Ala Asn Phe Ser Ala Ala Leu Thr Arg Ala
            340                 345                 350

Phe Glu Leu Leu Glu Ile Tyr Arg Asn Asn Ser Gly Gly Ala Asn Cys
            355                 360                 365

Asn Gln Ala Ile Met Leu Val Thr Asp Gly Val Pro Tyr Asn Tyr Lys
    370                 375                 380

Glu Ile Phe Glu Lys Tyr Asn Trp Lys Tyr Glu Thr Pro Val Arg Val
385                 390                 395                 400

Phe Thr Tyr Leu Ile Gly Arg Glu Val Ala Asp Val Arg Glu Val Lys
            405                 410                 415

Trp Met Ala Cys Ala Asn Arg Gly Phe Tyr Val His Leu Ser Thr Leu
            420                 425                 430
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Ala Glu Val Arg Glu Arg Val Leu Glu His Val Asn Val Leu Ala Arg
        435   440   445

Pro Leu Val Leu Gln Arg Glu Lys His Pro Val Val Trp Thr Pro Val
        450   455   460

Tyr Ala Asn Val Thr Asp Pro Lys Val Ala Asp Tyr Leu Trp Glu Gln
465   470   475   480

Arg Glu Arg Ala Glu Gln Lys Glu Arg Phe Met Ser Gln Arg Arg Asp
            485   490   495

Lys Asn Leu Phe Asn Ser Asp Lys Glu Gln Asp Arg Arg Trp Arg Ile
            500   505   510

Thr Gln Met Lys Gln Gly Gln Tyr Ser Glu Leu Gly Asn Ser Gln Tyr
        515   520   525

Gln Leu Met Thr Ser Val Ser Met Pro Val Tyr Asp Leu Arg His Asn
        530   535   540

Glu Ser Val Glu Glu Asn Gly Gln Lys Glu Met Arg Ile Ala Arg Leu
545   550   555   560

Leu Gly Ile Ala Gly Thr Asp Val Pro Leu Ser Glu Ile Gln Ala Leu
            565   570   575

Met Thr Pro Tyr Lys Ile Gly Val Asn Gly Tyr Ala Phe Ile Val Thr
            580   585   590

Asn Asn Gly Tyr Ile Leu Ile His Pro Asp Leu Arg Pro Val Phe Gln
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Gln Ile Leu Lys Pro Ser Tyr Asn Ser Val Asp Met Ile Glu Val Glu
    610   615   620

Leu Phe Asp Asp Asp Arg Gly Pro Arg Asn Phe Ser Lys Glu Leu Thr
625   630   635   640

Ala Leu Arg Lys Glu Ile Ile Asp Gln Lys Thr Gly Asn Lys Val Met
            645   650   655

Ser Val Lys Tyr His Leu Asp Asp Met Lys Arg Val Ser Arg Ala Lys
            660   665   670

Arg His Tyr Phe Trp Thr Gly Ile Ser Asp Ser Pro Phe Thr Leu Val
        675   680   685

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Val Ala Ile Pro Glu Asn Tyr Gly Arg His Arg Ile Thr Pro Pro Pro
690   695   700

Thr Asp Asp Ile His Arg Leu Ser Leu Thr Ser Lys Asn Ile Ser Ala
705   710   715   720

Arg Gln Tyr Leu Ser Asp Lys Trp Ser Val His Pro Asp Trp Met Tyr
                725   730   735

Cys Arg His Tyr Glu Arg Thr Phe Ala Thr Ala Glu Glu Glu Leu Leu
            740   745   750

Tyr Phe Leu Glu Arg Val Ala Lys Pro Gly Trp Arg Trp Pro Ala Lys
        755   760   765

Pro Arg Pro Pro Glu His His Lys Asn Lys Pro Gly His Glu Arg His
    770   775   780

Asn Asn Gly Thr Pro Glu Thr Arg Glu Arg Ser Lys Ile Ser Asn Ser
785   790   795   800

Thr Pro Arg Asn Glu Tyr Tyr Cys Asp His Gly Leu Met Gln Ala Leu
            805   810   815

Val Tyr Asp Ala Arg Asn Thr Ala Trp Phe Asn Lys Ser Ile Ser Asp
        820   825   830

Ser Ala Ser Asp Glu Lys Ala Val Glu Phe Ile Gln Arg Phe Gly Tyr
        835   840   845

Ile Val Ala Phe Leu Ser Thr His Ser Gly Leu Thr Arg Trp Gln Thr
    850   855   860

His Pro Pro Lys Glu His Asp Asn Asp Lys Pro Asp Phe Gly Lys Gln
865   870   875   880

Trp Pro Arg Ala Ile Glu Glu Val Trp Tyr Arg Arg Ala Val Glu Gln
            885   890   895

His Tyr Val Asp Pro Leu Ser Tyr Val Tyr Ser Val Asp Leu Ser Thr
            900   905   910

Val Lys Phe Pro Leu Asn Val Ser Leu Ala Leu Val Thr Ala Ser His
        915   920   925

Ala Val Phe His Gly Asp Gly His Arg Lys Ala Pro Ala Ala Val Val
    930   935   940

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Gly Phe Gln Phe Lys His Glu Arg Leu Ser Glu Trp Phe Asp Asn Ile
945                 950             955             960

Thr Ser Ser Cys Glu His Asn Lys Glu Cys Thr Thr Cys Gln Ser Asp
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Asn Trp Asp Cys Tyr Leu Val Asp Asn Asn Gly Trp Val Ile Val Ser
                980             985             990

Glu Asp Ser Thr Gln Thr Gly Gln Phe Phe Gly Arg Ile Arg Pro Asp
            995             1000            1005

Ile Met Ser Arg Leu Val Glu Asp Glu Val Tyr Lys Ala Val His
    1010            1015            1020

Ile Val Asp Tyr Gln Ala Val Cys Phe Arg Glu Lys Lys Thr Thr
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Asn Pro Ala Thr Met Leu Phe Thr Pro Leu Glu Asn Leu Arg Leu
    1040            1045            1050

Val Met Ala Trp Phe Leu Ala Thr Thr Val Trp Phe Tyr Asn Ser
    1055            1060            1065

Ile Thr Thr Gly Leu Ala Gln Ala Ser Ser Tyr Ser Phe Asp Asp
    1070            1075            1080

Glu Asn Val Thr Pro Thr Val Ala Tyr Gln Ser Tyr Glu Asn Asp
    1085            1090            1095

Glu Glu Thr Asp Asp Pro Tyr Met Ser Lys Pro Pro Asn Met Arg
    1100            1105            1110

Val Leu Glu Arg Asp Tyr Glu Lys Leu Val Leu Ile Asn Arg Thr
    1115            1120            1125

Arg Pro Thr Pro Cys Asp Arg Glu Met Tyr Leu Tyr Gln Leu Asp
    1130            1135            1140

Tyr Asn Asn Leu Asp Glu Lys Leu Asn Lys Pro Val Ala Glu Cys
    1145            1150            1155

Gly Arg Pro Phe Ile Ala Gln His Val Asn Tyr Thr Asn Met Leu
    1160            1165            1170

Met Ile Val Val Asp Ala Asn Cys Pro Lys Asp Glu Val Ala Ala
    1175            1180            1185
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Met Ser Val Asp Ala Thr Glu Val Asn Tyr Asn Glu Ser Leu Pro
    1190   1195   1200

Cys Leu Lys His Met His Pro Leu Tyr Arg Lys Gln Pro Thr Ser
    1205   1210   1215

Cys Ile Arg Asn His Thr Glu Glu Ser Asn Ile Asp Met Cys Gly
    1220   1225   1230

Arg Gly Ser Leu Pro Gly Asn Ser Lys Thr Trp Ile Ser Leu Ser
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1   5

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1   5

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Ile Phe Glu Val Val Trp Ser Glu
1   5

<210> 55

<211> 24
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aaactcacgt tgtccgcgtt acac   24

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Cys Asn Ala Asp Asn Val Ser Leu
1   5

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Ile Val Ile Phe Ala Ile Ile Gly
1   5

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cctcggtctt ttccagattc tgtg   24

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Ala Gln Asn Leu Glu Lys Thr Glu
1   5

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ggtcttatcg ccgttaggca aatg   24

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His Leu Pro Asn Gly Asp Lys Thr
1   5

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<220>
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<400> 66

Gln Glu Ile Glu Arg Ile Phe Glu Leu
1   5

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Phe Asp Val Ile Leu Asp Glu Asn Gln
1   5

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<213> Artificial

<220>
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<400> 69
tcggactctc caattggtag   20

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<400> 70

Arg Thr Leu Gln Leu Val
1   5

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<220>
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catgtcaggc gggcactgcg   20

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<400> 72

Ala Gln Cys Pro Pro Asp Met
1   5

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<400> 74
ggcctggcac acatagatt   19

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cgggattgct acatacttga c   21

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tttgtgacaa cccaacgaat ta   22

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<400> 78

gccgacgatc atgatggcyt grttrca   27

<210> 79
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<220>
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<400> 79
gcgccatgat ggaacttaag a   21

<210> 80
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<400> 80
tgccgaagta ctgccacgac a   21

<210> 81
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<400> 81

Val Gln Thr Trp Ala Glu Lys Leu
1   5

<210> 82
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<400> 82

Cys Asn Gln Ala Ile Met Ile Val Ser
1   5

<210> 83
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<400> 83

Pro Leu Thr Lys Val Ile Gly Leu Leu Pro Arg
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